44 MED. EDUCATION

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LOOKING TO THE FUTURE

Rough notes ~~OUTLINE~~ OF A TALK JANUARY 17, 1944
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We are discussing reform that may take place in medical education. There are two valid reasons that might be advanced in support of the study of reform, one general and one peculiar to the present time. One of the principal differences between plants and animals is that animals move in their environment. Now it is extremely important if an animal is moving for him to know a little ahead of time what he is getting into. Three of the five senses of most animals meet this need of knowing what is going on at a distance - sight, smell, and hearing. The other two senses, touch and taste, only function with objects no longer at a distance. We ought to study our environment and look into the future as we would look into the distance to see what we are getting into if only in self-protection. This is a general and constant adjustment and reform. The other and more temporary case for reform, is that if we don't look out the New World will be on the other side of the Atlantic and North America will become the Old World. This is even more likely in a victorious America, since victory usually enshrines the convictions and the conventions of those who were running things when the victory was secured. Europe is likely to disregard the opinions of the elderly generation and the more so since it was cleared of most of its finest representatives in the last war, for the leaders in the present war were the younger generation in the last war, and that was a generation which, in Europe at least, was decimated and is now enfeebled.

I suppose an introductory speaker to a series of lectures such as these has ~~more nearly~~ the task of describing or defining some of the issues

involved. I have never read a monograph or essay on the essence of reform so that perhaps the three following aspects of it will prove to be a somewhat sophomoric approach. First, I want to discuss the price tags, the penalties and the essential prerequisites of reform in medical education, second, to examine a little the motives and reasons for reform, and third, to make some suggestions as to the direction and nature of specific changes that might be desirable.

I. I may as well say that before we take up the price tags of reform, I would like to make it clear that by reform in medical education I do not mean more changes in the curriculum. Faculties of medicine seem to me to have always relieved their consciences of the charge of conservatism by getting thoroughly stirred up from time to time on the subject of the curriculum. Frank Swinnerton, in a book review, once predicted a success in England for the book he was reviewing "since," he said, "this book caters to that overwhelming interest in bastardy which is the natural preoccupation of a thoroughly virtuous people." In the same way the medical faculties with no intention whatsoever of erring on the side of radicalism will discuss new departures in the curriculum, but without any change of heart. Usually one would expect a gradual change completed reform about once in thirty years, since the younger member of the faculty is usually in his middle thirties, and by the time he has retired some thirty years have elapsed, and the entire personnel has changed. If there are no little adjustments in between times, the changes are likely to be rather violent. One must remember that every system that has any qualities or advantages probably has the defects of those same qualities, and the intelligent thing is to know the price tag on any radical reform.

I am going to assume that in talking of reform of medical education we are not talking about those changes appropriate to any particular specialty alone, but rather to general changes in the whole of medical education which are in a sense changes in the highest common factor of the whole process. It would be a great deal easier thing to discuss reform in medical education if qualifications and the work of those holding the M.D. degree were always the same, but reflect upon the following subdivisions of medicine and you will see that reform in medical education needs very careful consideration and reconsideration before it can wisely be adopted wholesale: General Practice, Internship, Pediatrics, Industrial Medicine, Military Medicine, Obstetrics, Surgery, Orthopedics, Ophthalmology, Ear Nose and Throat, Urology, Gynecology, Psychiatry, Neurology, Neurosurgery, Dermatology, Pathology, Roentgenology, Hospital Administration, Public Health Administration, Bacteriology and Immunology, Parasitology, Research work, and teaching in all of the above and the medical sciences.

When it comes to the actual price tags of a reform of medical education, I would think of the following, first, ~~of cost~~, there is a loss of at least a passage of a good deal of time before the reform can be put through. There has to be a good deal of time spent in discussions such as we are having today. Then you have to get agreement among the different medical schools and not only that, but you have to get acceptance by the colleges of what the new requirements of the medical schools may be, and still more important, you must have the medical profession ready to accept the qualifications of the newly trained men in lieu of the old style qualifications. This takes particularly vivid and tangible form in persuading

hospital boards to change their standards for interns and other appointments. They will suspect that any change is a retrograde movement, and time is needed to convert them to a more accurate and sensible impression.

The next price tag on reform is the financial cost of it. Whenever the changes call for such things as new facilities, more space, or a differently trained teaching force, or a larger teaching force, I need only say that the General Education Board put in something like $86,000,000 in support of reforms in medical education, and this sum was probably matched by gifts from other sources for the same purpose. Apart from the financial cost, reform usually meets with opposition, The newly recommended changes are unfamiliar and are in contrast to procedures well known. They lack prestige, whereas the present procedure is considered sound and well established. The new is likely to be poorly equipped at the outset and thus make a shabby comparison with the well equipped old style, and the reforms are likely to call for the services of new men and that fact may be a sinister threat to the older men.

The final price tag I shall mention for reform is that reform usually does leave out something that was really quite good in the old way of doing things. It is very difficult to stage a reform without some actual losses, and one is therefore faced with the question of what is the relative value of the things that are sacrificed.

II. Certainly we must know the motives and reasons for reform if it is to be intelligently planned and carried through. Reform is needed in medical education, first, because there are so many new subjects and leads for study: Biophysics, Chemotherapy, Psychological Medicine, Biostatistics,

Medical Economics, Forensic Medicine, Geriatrics, are fields calling for more time and more attention, and within already established medical departments certainly the increased knowledge of internal secretions, nutrition, and heredity press also for a bit more of the students' time.

The second reason for reform of medical education is that both the relative and the absolute numbers of diseases have changed with or without our new therapeutic agents. Acute infections and epidemics are decreasing in their numbers and seriousness. Chronic diseases are increasing. Chronic malnutrition is being recognized in steadily larger quantities, and this will probably continue for a decade or two before we can say that chronic malnutrition has followed the path of acute infections and is diminishing. Nervous and mental phenomena, both of the mild and everyday type and of the extreme forms, appear to be on the increase. There is an increasing amount of work done in preventive medicine and public health, and it would appear likely that the present already increased number of physicians on governmental salaries of one kind or another will not diminish but rather grow larger. In other words, medicine itself has not the same composition or complexion that it had, nor is the disposition of human forces to combat disease along the same fronts that were characteristic of say 1910.

To develop a bit further the idea that the methods of practice are changing, one has to note the steady growth of the health insurance principle, the increase of group practice, the large development of diagnostic laboratories and their increasing utilization by doctors, the steady increase in hospital facilities, and the increasing conviction throughout the population that the doctor in many instances at least can "deliver the goods". The

horror and aversion connected with going to a hospital is certainly decreasing, and a doctor's services are coming to be considered by many a community far more in the light of a public necessity than an unattainable luxury for the privileged few. Furthermore, there is clear evidence that medicine is being practiced in a different way, since there is a steady drift into specialization and the young doctors are no longer settling in the country or in the small towns in preference to the big cities. The problem of medical care is coming to be more and more a problem in distribution rather than the quality of medical care.

Should our methods of teaching not reflect the substantial changes noted above? If it is true that we have a lot more to teach than used to be the case, is the right answer merely to tack on one or two years more to the medical curriculum? Would it not be better if we could find some method of teaching more economical of time than the one we use now? If observation, reasoning, and a comparison of one's experience with the experience of others are the three principal activities of the student and his teacher, why not lay more specific emphasis on these procedures and leave the transfer of specific bits of information to the student as his responsibility? Let the medical student realize that if he knows how to find out what he wants to know, then he will not have to carry it all around in his head with him. It seems to me that not only is the method of teaching challenged by present needs, but in one or two other ways we should reform the schools. Prevention and a good orientation in human biology ought to come into the course earlier and stay longer. I think that we should count also on some sort of a connection with the work of a hospital on the part of a new graduate. The most

inexcusable waste in a doctor's life occurs just after he has completed his hospital internship or residency. He then is at the maximum of his strength, ambition, and training, and yet he is obliged to remain relatively inactive in the work that he is capable of doing and wait and wait and wait. He ought to have immediate institutional connections that would utilize his ability and extend his experience.

In one other direction I should like to see medical education undergo something of a reform. We could well make a more careful selection of medical students, and this especially in reference to character and social conscience. There are plenty of M.D.'s in the United States, but there are too few good doctors. As long as the selection of medical students rests so strongly on purely intellectual records, we shall have an embittered clientele, because doctors' characters and desire for being helpful are quite as important as sharpness of mind or nimbleness of wit. The present foreshortening of the premedical and medical curriculum is, I think, likely to be an almost unqualified tragedy. No education can be thoroughly examined without reference to the maturity of the recipient. It would be perhaps a neat device to be able to eat all one needed for the week on Monday morning, but it can't be done, and crowding the medical curriculum into the minimum period throws grave doubt in my mind on the nature of the assimilation thereof. The main thing to do is to watch with very great care the present obligatory experience so that our inferences from it will be sound.

III. Though subsequent speakers will cover in considerable detail the specific directions in which reform might move, I will run over briefly some of the changes that seem to me to be desirable, and I would divide these

remarks into changes in the premedical course, changes in the medical school, and changes on the subject of postgraduate education.

I would like to see a better course in general science, especially biology, in the secondary schools. Generally, in the United States the teaching in science in secondary schools is of poor quality, one or two of the private boys schools, such as Andover and Exeter, being notable exceptions.

I think the college requirement for premedical work should not extend beyond a year in physics, a year in biology, and two years in chemistry. I would like to see more emphasis on the things not now considered as premedical subjects, English, sociology, economics, anthropology, mathematics, psychology, philosophy, and ecology, but more important, I should like to see premedical students allowed a maximum of electives and be judged upon the marks secured in subjects of their own choice. I believe that in that way medicine could begin to attract a definitely better group of young men and women. I would like to see liberal exceptions made in the cases of candidates for entrance in lively acknowledgment of the great variety of talents needed inside medicine.

In the medical school I would like to see less emphasis on departments and more acknowledgment of the importance of teaching the faculties of observation and reasoning and comparison (i.e. using the libraries intelligently). I would like to have more examples set by the professors in the clinical subjects on the way to handle human beings so that the students will get in this manner more experience than is the case now. In the selection of teachers in the medical school I would like to see more attention paid to width of choice and care in final appointment. In the selection of medical

students I would like to see a larger number eliminated before entering and, if necessary, during the course when their conduct is open to undoubted criticism for moral or ethical reasons. I see no reason why a student should be allowed to stay on in a school because he has been there two years if he is known to be so lazy or so unprincipled as to be dangerous to defenceless patients a year or two later. I should like to see the degree for American doctors changed to M.B., which would cover four years of medical school and one year of internship, and the M.D. degree supplant the certificate of the specialty boards, this to take place after the year 1950 and the M.D. to be accompanied always by the year in which it was conferred. If this were the case, then M.D. with no date would mean that it was old style, and within 50 years it would quietly but firmly disappear. In terms of the courses in the schools I would like to see the time devoted to anatomy reduced in favor of study of human biology, especially genetics and heredity, growth and aging, and the effect of environment on the organism. Physiology I should like to see ~~emphasized~~ giving emphasis to more human physiology, and also some attention given to the physiology of the organism as a whole, e.g., tropisms, instinctual drives, etc. This would provide a much better basis for medical psychology. The teaching of psychiatry I would like to see through each one of the four years. The first year should be largely through physiology as just noted, the second year, medical psychology, the third year, clinical lectures and seminars, and the fourth year, clinical work. Similarly, hygiene I should like to see spread over four years, the first year carrying biostatistics and the physiology of measurement of performance, the second year, epidemiology and environmental control, the third year, socialized medicine

and public health administration, and the fourth year, preventive medicine with practical work.

In the postgraduate field I should like to see the state boards of licensure carrying on their work in some state hospital reserved for this purpose, where a candidate for licensure would spend a week and thus be obliged to reveal his ways of thinking and his skill in handling patients as well as his mastery of pen and paper. In increasing measure specialty training has got to be postgraduate. If the M.D. were connected with postgraduate training in the specialty, I should like to have it accompanied by a thesis, and I think the selection of something worth writing a thesis about is an important guide to forming an opinion of the intelligence of the candidate.

If we have got to have refresher courses in medicine, there ought to be entrance examinations for such courses, and these ought to be exclusively on a tutoring or coaching basis. This would provide both income and experience for young teachers and would be a great deal better for the recipients than the present procedures.

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